

Cosmic Origins UV STIG

presents the

Quorum for Ultraviolet Exploration of Science and Technology

- Thursday 13 May 2021 – 15:00 -16:00 EDT

- <https://zoom.us/j/97615774628?pwd=TkNXOXpZZnNpbzNjN2EvZU9uZE1CZz09>

- Today's QUEST Speakers

1. Jason Tumlinson – STScI

Tracking Technology Development Needs Post Astro2020

2. Derek Buzsai -- Florida Gulf Coast University

MAGIC: The Massive star Asteroseismology Instrument Cubesat

Abstract: OB stars play key roles in the evolution of the universe through their roles in chemical enrichment and as Type II supernova progenitors, as well as serving as the progenitors of gamma-ray bursts and neutron star collisions such as those responsible for recently-detected gravitational wave events. Accordingly, understanding the nature of these objects is fundamental to our understanding of astrophysical topics as diverse as the early universe, star formation, stellar winds, and the evolution of the interstellar medium. However, our current models are limited by our understanding of processes such as internal differential rotation and angular momentum transport, core overshooting, chemical mixing, and the effects of magnetic fields.

Improvement of models can only come through confrontation with observations. Since many (and perhaps most) massive stars oscillate, high-precision asteroseismology constitutes the ideal observation set for this purpose. We report on the design study for a small spacecraft to perform asteroseismology on several hundred late O and B stars using time series photometry in the NUV, where these stars have large oscillation amplitudes and where relative amplitude and phase information will allow us to identify the oscillation modes responsible for variability in a way which is impossible from the ground or with single-color observations from space.

- Instructions for joining UV STIG mail list

- https://cor.gsfc.nasa.gov/stigs/uvstig/maillist/uvstig_maillist.php